Labor

House Air Safety Committee Publishes First Report of Activities

THE AIR LINE PILOT

Vol. 10—No. 8 | Published by The Air Line Pilots Association, International, 3145 W. 63rd St., Chicago, Ill. | September 1941

Pan Am.-Grace Pilots' Employment Contract Nears Completion

LONGEST On August 27 Honolulu airport officials flashed word that three new Douglas DC-3's, the "Haleakala," the "Waialeale," and the "Manualoa," had just landed after winging 2,450 miles over ocean from San Francisco—completing the longest formation of water flight with commercial land transports in aerial history. Built for Hawaiian air lines, also known as Inter-Island Airways, by Douglas Aircraft Company, the three sleek transports took off from Oakland field at 5:15 a. m. Wednesday, and 13 hours and 55 minutes later touched their wheels to the ground at John Rodgers Airport in Honolulu. Inter-Island will immediately place the new planes in service on its over-water inter-island routes, augmenting its present fleet of amphibian planes. Equipped with the usual two-way radio, the planes were in constant communication with each other and with both the Mainland and the Islands, receiving weather data, and in turn reporting progress "uneventful and on schedule." This history making fleet was manned by, l. to r.: T. M. Blackmon, Radio Operator; C. R. Stirewalt, Radio Operator; W. O. Sargent, Pilot in Charge; J. L. Harper, Reserve Pilot; B. A. Foulds, Pilot in Charge; L. T. Bishop, Pilot in Charge; and J. F. Martin, Pilot.

LATE NEWS IN BRIEF

New

The Pan American-Grace Airways has a new line that links the strategic Panama Canal Zone with Buenos Aires. Weekly mail and passenger flights parallel and replace a Nazi-owned service.

"Hot"

The performances of latest U. S. bombers according to experienced civilian test pilots are extremely "hot." Minimum approach speeds of 135 to 140 miles an hour and landing speeds of 115 to 120 miles an hour are reported. Paved runways 4,500 feet long are required to land some types, and then only if full brakes are used. This, it is stated, limits the usefulness of such planes and makes night landings extremely hazardous.

Authorized

The British Overseas Airways Corp., has been authorized to engage in foreign transportation between the United States and the United Kingdom, via Canada, Newfoundland, and Ireland, or via Bermuda, according to the Civil Aeronautics Board.

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Airport Winner May Be Loser

An old boundary dispute between the State of Virginia and the District of Columbia has been brought to a head by the construction of the Washington Airport and the subsequent application of the airport restaurant concessionaire for a liquor license.

It seems that the airport proper is in the District of Columbia, while the Administration building is located on a tract which was some years ago ceded back to Virginia by the District.

Now it appears that a special act of Congress may be necessary to settle the dispute. This is a case in which the winner will probably be the loser. It is estimated that the cost of fire protection and so forth will greatly exceed the taxes that will be realized from the disputed land.

19.9% Women; 80.1% Men

A recent survey made on a nation-wide basis to determine the reason for air travelers going from place to place revealed that 67.5 per cent was business travel and 32.5 per cent was for personal reasons. Of the 93,186 persons tabulated in this survey by 16 air lines, 80.1 per cent were men and 19.9 per cent were women.

Cumulo-Nimbus Cloud Hazards

BACKGROUND: Recently Mr. Robert M. Stanley, an outstanding glider pilot and now chief test pilot for Bell Aircraft Corporation, wrote the Safety Bureau of the Civil Aeronautics Board, describing his experience in cumulo-nimbus formations. The Bureau was so impressed with the value to pilots of Mr. Stanley's experiences, that his permission

(Continued on Page 4, Col. 1)

Congressional Group Reports

(Editor's Note: The following is the first part of the preliminary report submitted to Congress by the Select Committee of the House of Representatives to Investigate Air Accidents. The report will be concluded in the October issue.)

As a result of a number of major accidents occurring on commercial air lines in 1940 and 1941, involving the loss of many lives, the House of Representatives adopted House Resolution 125, creating a select committee of five members to make a full and complete investigation of such crashes and other air accidents. The committee was further instructed to investigate any other matters, and to ascertain all pertinent facts in the field of commercial and civil aviation, which it should deem necessary for the purpose of obtaining adequate information to enable it to recommend action.

The committee which was appointed consists of Representa-

(Continued on Page 8, Col. 1)

Senate Approves Flight Strip Bill

The Senate adopted S-1840, a bill to supplement the Federal Aid Road Act to authorize appropriations for the immediate construction of roads urgently needed for national defense and for other purposes, on August 15. Among the other purposes was an authorization for the expenditure of $10,000,000 for flight strips to be constructed adjacent to the national highways.

This was the third time this measure had come before Congress, the first bill S-1580 having been vetoed by the President on August 2. On August 6 the Senate overrode the President's veto by a two-thirds vote in favor of the bill, but the House failed to muster a large enough majority and the bill was lost. On August 11 a new bill, S-1840, was introduced with changes designed to overcome the President's objections.

Appropriation Drastically Cut

The original bill called for a

(Continued on Page 3, Col. 4)

First Agreement In Foreign Field

On October 1 and 2 additional employment contract conferences were held with Panagra officials in the New York offices of the Company. With the exception of a very limited number of remaining differences that have not yet been finally approved by the pilots, this contract is complete.

Making this agreement was a long and tedious undertaking because of the rather unorthodox nature of this operation. Panagra operates entirely in and through foreign countries, with the exception of one of its principle terminals at Cristobal in the Canal Zone.

3,600 Miles Separate Executive and Operating Offices

The air network of this Com-

(Continued on Page 6, Col. 5)

Export Line Is Denied TACA

Examiner J. Francis Reilly of the CAA has made a report on the application of American Export for approval of its acquisition of TACA in which he recommended that American Export be denied the right to acquire the Central American air line.

According to Reilly, this acquisition would be contrary to Section 408 (b) of the Civil Aeronautics Act which forbids the acquisition of an air carrier by a carrier other than an air carrier, unless the Board finds that the transaction proposed will promote the public interest by enabling such carrier other than an air carrier to use aircraft to public advantage in its operation and will not restrain competition.

American Export Airlines, as is well known, is controlled by a carrier other than an air carrier, namely, American Export Lines, a steamship company. As the trade routes served by this steamship company are far removed from Central America, Reilly held it could not use the TACA service to public advantage in its operation.

—Associated Press Photo

UNUSUAL *Here is pictured a Transcontinental & Western air liner leisurely winging its wayover one of the largest meteor craters in the world—the Meteor Mountain, located near the Canon Diablo in Arizona. Some idea of the size of the crater can be realized when it is contrasted with this giant air liner flying high above. The pit is actually about one mile wide and approximately 600 feet deep.*

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Editorial Offices:
3145 W. 63rd St., Chicago, Ill. Telephone Hemlock 5015

David L. Behncke ..... Editor *Olive Barnes ..... Asst. Editor*

RADIO AND LIGHTS

In a recent article published in the *Aero Digest*, and which is appearing in this issue of the AIR LINE PILOT, David Little, Radio Engineer for American Airlines, had the following to say:

"Radio alone has not provided an acceptable means of landing aircraft by instruments, and much time has been expended in that effort. If we were to provide sufficient and the proper type of lighting as a companion to that radio assistance now available, perhaps radio plus lights may mean safe landing."

Everything considered, this represents pretty much the kernel of the nut on the question of so-called instrument landing. Both old-timers and newcomers in the air line piloting profession, and the most ardent advocates of instrument landing systems, are at last beginning to agree for the first time that the day is still far distant when it will be safe and practical to land aircraft entirely by instruments. This unanimity of opinion is nothing more nor less than the sum total of common-sense thinking.

Increased landing speeds and their attendant narrowing of prior-to-landing maneuverability ranges have not lessened the problem. In fact, faster landing speeds and related higher wing loadings will augment the difficulties of instrument landing to an appreciable degree.

Boiling the problem down to its crux, the greatest difficulty of completing schedules in bad weather is no longer getting from place to place and landing, once the plane is within the boundaries of a properly improved and lighted airport. The real problem is to get from off the airways and the airway aids down to the runway after arriving at a point of destination.

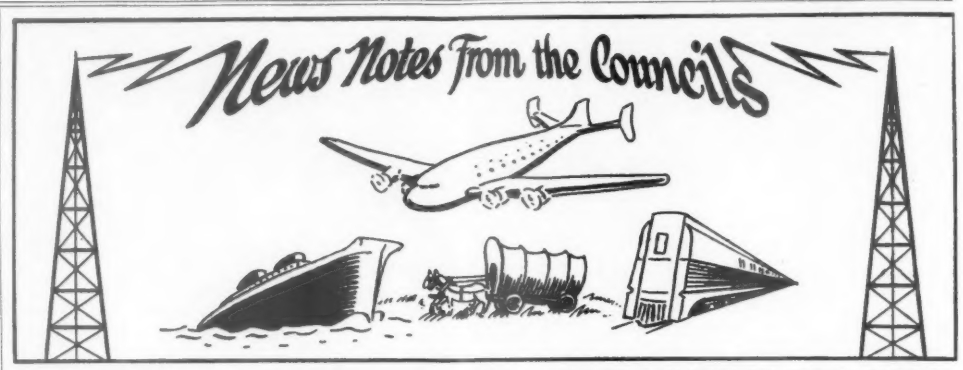
Consequently, we are hearing the line pilots more and more frequently remark "Everything considered, our present-day airway aids, while there is plenty of room for improvement, are usable, but we are still barnstorming from the radio ranges to the runways."

In other words there is a gap in present-day facilities, and that gap is one that can only be logically closed by the employment of an extended version of approach lights extending from the ends of more than one runway, instead of the currently used one runway installation. The Federal Regulatory Agency and the Congressional Air Safety Investigating Committees could do aviation no better service today than to explore the *inadequacy of* currently used approach lights and the *immediate need for* greatly extended approach light systems around all of the country's principal airports.

Few will disagree that had this been done sooner, it would have prevented past accidents, and, if it is done now, it will prevent future accidents. The answer seems to be that radio plus adequate approach lights will equal safe landing. Need more be said, or, to put it even more directly, what are we waiting for?

Some will argue that the cost of extending approach light systems will be prohibitive. They will also argue that the extending of approach lights around airports will meet with right-of-way obstacles. As to the cost question, haven't we been hearing about the contemplated expenditures of millions for blind landing systems? Why not divert some of this money for use to buy something that we know can actually be depended upon to greatly enhance the safety and efficiency of both military and commercial flying under adverse weather conditions. It may one day be important to move large air fleets quickly. Answering the right-of-way question, surely all agree that it is high time that the airways are taken out of the stepchild class and given a position equal to and commensurate with the federal right-of-way privileges of surface transportation, whether it be over land or water.

—David L. Behncke



WELCOME, AMIGOS, TO TREASURE ISLAND

By NED AVARY
Council No. 56, PAA-Transpacific
San Francisco, Calif.

Having just returned from a lazy air cruise to Singapore, Ye Olde Scribe finds his mailbox chock-full of circulars, old razor blades, and three hot requests from dear old ALPA for NEWS.

Well, on perusing the data at hand (ahem), the word SHUTTLE bounces back and forth all over the scribe's desk, and some of it comes to rest in his mummified mentality. Shuttle runs, shuttle crews, shuttle transfers, shuttle trains, and even shuttle boats are now the order of the day.

S. F.-Honolulu Shuttle Service Starts Everything

It all started with the new shuttle service between San Francisco and Honolulu. Captain Cluthe, First Officer Kelly, and crew started the ball rolling August 15 from Honolulu and arrived in San Francisco the next morning, having completed the first leg of the first shuttle run. Since then the new shuttle service, plus the old standby runs to the North and South Pacific, has provided a thrice weekly service between Honolulu and the Mainland.

The first crew uniquely started all this by way of the high seas on the S. S. Lurline. They left San Francisco aboard said vessel and picked up their Boeing in Honolulu. Nice easy way to start a long flight, eh? Kelly took this opportunity to show his attractive wife the Paradise of the Pacific, and so Tess accompanied him over on the Lurline, had a bang-up four-day stay on the Islands, and flew back to San Francisco with "Old Kell."

Chance to Get a Birdman Bronze and Learn the Hula

Because certain shuttle trips terminate in Los Angeles, the new crews shuttle down to Los Angeles on the train, and the old crews shuttle on home the same way. What a business! Not a bad way to start a trip, though—comfortably ensconced in the lounge of the "Daylight" rattler between San Francisco and Los Angeles! The shuttle boys wind up finally in Honolulu with a four to eight-day layover. Plenty of time to get a birdman bronze in the sun, tour the Islands, learn the hula, and maybe entertain a few of the more aged (?) tourists.

Since the new Honolulu shuttle, there has been a hectic shuttling of pilots in and out of the Pacific Division. To wit: Skipper Lodeesen has arrived from the Atlantic Division and is now lost in the Pacific shuttle-shuffle. First Officers Gray, Nienaber, Roberts, Desmond, and Randall have been transferred to Coastwise Divisions for checkouts as Captains; everyone but Randall going to Miami, and "Tiny" winding up in the Western Division at Brownsville.

Kudos in Order for New ALPA Members

A new shuttle of the first officer roster has produced the following new co-skippers: Gillespie, Myers, Jensen, Abraham, Buschmann, White, Kohler, Nunn, Forrler, and Mack. Congratulations to the new first officers as well as to the old ones now switched from the "anxious" to the "hot" seat. Kudos are also in order for Blakeman, Strickland, Page, and Boucher — new ALPA members.

Also to be mentioned are the

(Continued on Page 3, Col. 2)

Ladeez and What Came With You!

By FRED W. WAHL
Council No. 21, IAL
Cheyenne, Wyo.

Gosh, I just got out of the tub the other evening and snugly reposed in bed when a startling sound permeated the entire household, causing the dog to bark and the cat to scram. I hollered to the wife to see who was at the door. It turned out to be a special delivery letter, and when I looked at the corner of the envelope and saw it was from Headquarters, I sez: "Now what did I do or say."

What a relief when I opened same, and it was only Dave getting sort of insistent 'cause some of us scribes were not helping with that final little push to get over the hill.

It is a real help that our company is growing fast in "peelot" personnel, for one of these days somebody will slip and boy, *WILL WE MAKE THEM WISH THEY HAD NOT STUCK THIS SCRIBE FOR ANOTHER TERM.*

Suggests a Pair of Collapsible Wings

Now, down to business. Ray Bullock is the proud owner of a racing skiff (?) using a 32-horsepower outboard. My knowledge of boats is slim, but this job certainly looks like some sights that you bald-headed codgers, me too, would pay dough to get into the front row. Ray is having difficulty keeping it within the confines of the small lake just west of the airport, whenever he opens up the gun. Each time he sees the dock approach he forgets the darn thing has a throttle that works backwards from a sky skiff, and before he gets it shut off he starts looking for a take-off ramp. I would suggest a pair of collapsible wings, Ray, then when it gets out of control you can hop up on Cheyenne's long east to west runway and feel more at home. This boat is no larger than a good size surfboard, and with all that power—oh, boy.

While on the subject of boating, Joe Leferink has been trying to acquire the knack of riding surfboards and water skiis in Great Falls. We hear he does right well until the boat starts speeding, and then things usually don't end so well. How about it, Joe? We understand the water can get X*-(X hard!

Don't Forget Us Sidehill Runners

As time passeth, so man passeth. Latest one of our pilot personnel to yield to greener pastures is Erle Murphy, who has tendered his resignation to be effective the middle of September. We hate to see you go, Erle. Rumor has it he is going to work for a line closer to his home state of Arkansas. We will miss that southern drawl. Best of luck, kid, and we hope you will not forget us sidehill runners when perspiring with the heat down yonder.

Incidentally, there go vacations again — each time Sam Moser thinks everything is under control and lines up vacation schedules, something happens to upset the applecart. Sure glad I took one when I had the chance—that is an official one.

Monster Fish Plays Tag—Sounds Fishy

After listening all summer to

(Continued on Page 5, Col. 3)

"To fly West, my friend, is a flight we all must take for a final check."

In Constant Memoriam

Active

Accidental

Adams, John B.—U. A. L.
Anderson, Lloyd—U. A. L.
Andert, Paul A.—U. A. L.
Barron, John M., Jr.—A. A.
Bickford, L. A.—Panagra
Bigelow, Ed.—U. A. L.
Blom, Edwin W.—U. A. L.
Bogen, W. L.—W. A. E.
Bohnet, Frederick L.—T. W. A.
Bolton, Harvey F.—T. W. A.
Bontrager, C. M.—R. A. L.
Borchers, Adrian—P. A. A.
Bowen, J. E.—T. W. A.
Bowen, Lewis L.—B. A.
Brandon, James L.—U. A. L.
Briggs, Francis W.—A. A.
Broughton, D. E.—U. A. L.
Brunk, Paul S.—P. A. A.
Bucher, Charles L.—P. A. A.
Chamberlain, Cassius B.—N. W.
Cohn, Hanley G.—W. A. S.
Cope, Alonzo—Marine Airways
Cox, Floyd—Ludington
Davis, Alfred W.—U. A. L.
Davis, Douglas—E. A. L.
DeCesare, Frank—Panagra
De Cesaro, Joseph G.—U. A. L.
Dietz, Stuart G.—E. A. L.
Dixon, Andrew, Jr.—D. A. L.
Dunn, Stephen—Panagra
Fey, Howard—U. A. L.
Fields, Glenn T.—A. A.
Fuller, Ray E.—A. A.
George, Hal—T. W. A.
Gower, Vernon—D. A. L.
Grover, R. Boyd—U. A. L.
Haid, Arthur A.—N. W.
Hale, S. H.—E. A. L.
Hallgren, W. A.—A. A.
Hill, George W.—A. A.
Holbrook, Clyde M.—A. A.
Holsenbeck, W. M.—P. A. A.
Jamellier, Stanley E.—C. A. L.
Jamieson, W. L.—E. A. L.
Jones, Lloyd E.—U. A. L.
Kelsey, Harold J.—A. A.
Kincanon, Ted N.—A. A.
King, George B.—P. A. A.
Komdat, Albert C.—E. A. L.
Lewis, Harry C.—T. W. A.
Livermore, Joe—N. W.
Lucas, Al—W. A. S.
Lucas, Verne—Ludington
Lynn, John B.—C. & S. A. L.
McMickle, Harold—Panagra
Malick, Forrest E.—U. A. L.
Mamer, Nick B.—N. W.
Marshall, Gerald V.—A. A.
Merrifield, Austin S.—U. A. L.
Montee, Ralph—T. W. A.
Montijo, John G.—V. A. T.
Morgan, Howard R.—T. W. A.
Mossman, Russell C.—C. & S. A. L.
Neff, Harold—U. A. L.
Noe, Earl J.—T. W. A.
Norby, Raymond B.—N. W.
Odell, M. T.—A. A.
Owens, Clifford P.—W. A. E.
Paschal, A.—P. A. A.
Perry, J. A.—E. A. L.
Person, Addison G.—P. A. A.
Potter, Norman W.—U. A. L.
Pursley, C. H.—Panagra
Radoll, R. W.—U. A. L.
Riggs, Russell S.—A. A.
Robbins, Wm. J. B.—A. A.
Rose, John A.—K. L. M.
Rousch, Chas. W.—N. W.
Rust, F. H.—A. A.
Salisbury, Hervey M.—T. W. A.
Sandblom, J. V.—C. P.
Sandegren, Thomas E.—U. A. L.
Sauceda, J. M.—P. A. A.
Scott, F. T. W.—T. W. A.
Scott, Philip C.—U. A. L.
Scroggins, Lowell V.—P. C. A.
Sharpnack, J. W.—U. A. L.
Sheets, Don W.—Panagra
Sherwood, George C.—W. A. E.
Supple, Robert E.—Panagra
Tarrant, Harold R.—U. A. L.
Terletzky, Leo—P. A. A.
*Thomas, L. E.—E. A. L.
Thompson, A. R.—U. A. L.
Underwood, Sanford L.—A. A.
Vance, Claire K.—U. A. L.
Waldron, Joe—A. A.
Walker, M. A.—P. A. A.
Wallace, Clyde W.—T. W. A.
Weatherdon, Edwin—A. A.
West, F. W.—N. W.
Wieselmayer, Otto—P. A. A.
Williamson, P. B.—E. A. L.
Worthen, John A.—W. W.
*Wright, J. S.—T. W. A.
Young, George S.—U. A. L.
Zeier, Carl F.—C. & S. A. L.

Natural

Blomgren, Lloyd I.—A. A.
Cochrane, Robert M.—U. A. L.
Fife, John A.—C. A.
*Gambee, Harley T.—T. W. A.
Hohag, R. J.—N. W.
Jamieson, Leland S.—E. A. L.
McConaughey, Ira M.—A. A.
Phelps, Henry T.—P. A. A.
Swanson, Axel—A. A.

Inactive

Anderline, Frank W.; Ashford, Ted; Barr, Julius; Burford, Dean W.; Caldwell, G. Q.; Drayton, Chas. M.; Hulsman, Herbert W.; Judy, H. R.; Kerwin, J. J.; Noyes, Dewey L.; Ormsbee, F.; Riddle, Glenn L.; Roulstone, J. J.; Rousch, Usher E.; Shelton, Boyd M.; Stark, Howard C.; Veblen, E. H.; Walbridge, Donald C.; Wheaton, Harold H.; Whittemore, Fred W.; Wolf, John F.; Willey, Sidney L.

Waiting List

Brock, Wm. S.; Kiser, Daniel.

Unemployed

Darby, James E.; Downs, Lloyd; Hays, George L.; Keadle, Floyd E.; Rhiner, L. H.

Honorary

Greene, Dr. Ralph; Rogers, Will.

** Apprentice Member.*

—I. N. P.

"PEELING OFF"

THESE BOYS, FLYING IN AN ECHELON FORMATION, ARE ADVANCED ARMY STUDENT PILOTS AT THE STOCKTON (CALIF.) SCHOOL. ONE IS "PEELING OFF" TO SIMULATE ENGAGING THE ENEMY OR BOMBING AN OBJECTIVE.

—Shanghaied! Sailors Beware!

By W. E. HINTON
Council No. 22, AA
New York, N. Y.

To go into detail about our first party — it was a huge success. About 160 turned out. To mention all those present would be like writing a new social register. The next one is to be held sometime this winter, so start your plans early.

"Sinbad" Gann and spouse arrived by boat, their own, after starting a four-day cruise at 10 o'clock that morning from Nyack and making the party 12 hours later. The following morning the Ganns barged across the Sound to get caught in a blow off Greenwich, Conn. Before Sinbad could get the sails down, two of them, and part of the topmast, were "gone with the wind."

Valient Crew Brave Wind-Tossed Sea

After a day of repairs, they anchored in Sea Cliff and woke up the Bill Dums at 4 a. m. to see if they wanted to go sailing. They all agreed to go a little later, and finally, with a crew of Sinbad Gann and "Pop-Eye" Dum, the bark arrived just off the east end of La Guardia airport as that memorable thunderstorm of the 26th broke loose. With rain and wind nearly taking off their hide, the valient crew — give them a break — finally docked at the World Fair's parking station. The boat will be sailed to its home port as soon as a large enough crew can be shanghaied—sailors, beware!

Kit Carson had a boat full after the dance and anchored out in Northport for the night. I don't know how he did it, but he got back the next day without experiencing anything more difficult than passing Walt Pharr. Bob was crewing for Walt—all he had to do was try to keep the engine going. He claims it to be a very stubborn bit of machinery.

Pay-Off Has a Surprise Ending

Jim Stroud had one pulled on him by none other than our Desperate Des, and it needs telling. Shipley was walking through the terminal in Nashville when he noticed a new stewardess wandering around. Never allow a girl to wander has always been a good motto, so Des called her to a halt. The conversation ran something like this:

He—Where you going?
She—New York.
He—With whom?
She—Capt. Stroud.
He—Ever fly with him before? (Very serious.)
She—No. Fact is, this is my first trip.
He—Wow! You don't know him. Did you check the weather?
She—No.
He—Well, I don't think it is so good, and with Stroud—if I were you I'd run down to the counter and buy some insurance for myself.

The pay-off — Shipley thought the girl was stringing him along. The girl thought Des was serious, and the insurance company got 50 cents of her money.

The Stork Club

Fran Bledsoe awakens these mornings to the crying of a new baby girl. Bob Lawless is buying cigars for his new boy, who carries a III after his name.

Rod Jones went into town while loafing at BW and got himself a haircut — that's what the barber called it. They say he looks as if his right aileron is now out of rig.

Johnny Davidson is going to leave us and go back to FV. Guess he got lonesome for longhorns. Hal Matheny is moving in to take over the glass-topped desk next to Tom Boyd. We are sorry to see Johnny go, and we thank him for his cooperation while here. Everyone knows Harold, and we are all for him.

Absent Pilots Will Not Lose License

The United States pilots whose assignments keep them in foreign countries will not lose their civilian pilot certificates because of inability to secure the required periodical endorsement of a U. S. flight inspector. The Civil Aeronautics Board has amended the Civil Air Regulations to cover such instances.

Until the adoption of the new amendment, a pilot whose absence from the country prevented him from proving that he had met the physical and experience requirements before the expiration would face loss of his certificate. Now a certificate does not expire until immediately upon return to the United States, and all the pilot need do is to get an inspector to check his flying time, take the required physical examination, and pass an examination on air traffic rules.

New Faces Emerge In Shuttle-Shuffle

(Continued from Page 2)

following junior pilots who have just been shuttled here from Miami for ocean training: Walker, Beck, Postlewaite, Howe, Loomis, Leep, Koepke, Evans, Terwilliger, McCafferty, Renshaw, and Hester. Welcome to Treasure Island, amigos, and here are your ALPA applications.

Before we completely exhaust this subject, as well as ourselves, there's one more pertinent personnel shuffle that the scribe will record inasmuch as it affects our local executive council. Due to transfers, the new setup for Council No. 56, PAA-Transpacific shows Captain Blackmore as Chairman; Captains Adams, Beer, and McGlohn and Junior Pilots Rusch, White, and Kohler for Executive Councilmen. A senior copilot representative is yet to be appointed.

The Link Trainer calls, and your scrivener signs off. So long.

There Will Always Be a Russia!

By S. M. KASPER
Council No. 3, TWA
Kansas City, Mo.

This is my second attempt to write about the arbitration hearings on the Boeings. The first newsletter on the above subject was censored by the editor. Perhaps rightly so, because it certainly was not complimentary to a few of those enthusiastic pilot officials who testified for the Air Transport Association of America.

Everything that was contained in my last letter was the truth, and if their own testimony sounded exaggerated and coached then it is not my fault. I feel that the AIR LINE PILOT paper is our own, and is used for the purpose of disseminating information to the association of air line pilots.

Local Boys Could Do No Wrong

The witnesses for the opposition seemed to me coached so much that the hearing took on an air of a football game. The game was between the pilots and TWA and was being played on TWA's home grounds. The referee, unfortunately, seemed to be a "home towner," and the local boys could do no wrong. As a matter of fact he might just as well have been quarterback and called signals for the local squad. The opposing team had a few "ringers" on their side, in other words, fair-haired boys with scholarships, who at one time were on our team, but were made better offers which would not require them to work so hard for their tuition.

Now, these "scholarship boys" thought that they had us scouted pretty well, and believed they knew the weak points of our offense and defense, but they were tackled with unusual viciousness and were stopped in their tracks. As a matter of fact one of the former members of our team was knocked for a terrific loss as he attempted to describe a stall. He looked so bad on that play that the coach soon jerked him out of the game. The "ringers" were using their best change of pace and straight-arm every time it was their turn to carry the ball. You couldn't blame them for trying to look good out there, for a poor showing might jeopardize their "scholarships."

Take Me Out, Coach, I Have Been Hit

A psychological halfback was injected into the game by the opposition on a crisscross or a "double—X," don't know which, to break down the forward wall and open up a big hole in the line. Also a good way to break down the pilots' morale was to state that the I. Q. of pilots was pretty low in comparison with that of office personnel. He was hit so hard on that play that he turned to the bench with that "take me out, coach, I have been hit" look.

Our team did not have the backing or reserve power of the "home boys," but our coach told them to stay in there and keep fighting, and if they felt themselves being routed out of line to hold on, even if only to a blade of grass. They were also told that if there were any broken bones not to quit fighting as there was plenty of tape on the side lines.

Cute Tricks Between Halves

To me the deciding factor in this game and the reason for our so-called loss was the head yell leader for the opposition. He was another member of the coaching staff who had cute tricks between halves, which the referee enjoyed very much.

Now to get back to the sublime. Doc Mesker is doing a splendid job as acting chief pilot. He has a keen understanding in the art of handling men. I know I speak for every pilot of TWA when I say Doc has the wholehearted support, co-operation, and confidence of all the pilots.

There will always be a Russia!

Original Measure Is Revamped

(Continued from Page 1)

total appropriation of $320,000,000, which was cut to $245,000,000 in S-1840. On the Senate floor Senator Vandenberg succeeded in effecting a further reduction of $50,000,000.

The $10,000,000 appropriation for flight strips stood throughout the course of all the maneuvering and was attacked at no time by either Congress or the President. It was retained in the new bill and, no doubt, will be adopted by the House when they get around to acting upon the latest version of this controversial measure.

Sought to Ignore Time-Honored Custom

The President's objections were aimed principally at an appropriation of $125,000,000 for strategic roads and bridges immediately needed for national defense. The President and the Bureau of the Budget had originally requested $25,000,000 to be expended where necessary, irrespective of the time-honored custom of apportioning federal highway appropriations among the states. Congress increased this to $125,000,000 and required that all of it be apportioned among the states according to area, population, and mileage of post roads. The President contended that if the money were expended where needed for strategic purposes irrespective of apportionment, the smaller sum would suffice for the present and that by apportionment even with the larger sum it was possible that some of the essential projects might be neglected. The new bill, S-1840, retained the original disputed $125,000,000 appropriation but divided it into two parts: $25,000,000 to be without apportionment and $100,000,000 to be apportioned. The $100,000,000 was

(Continued on Page 4, Col. 4)

Fast Mail by Dog Sled; Oxcarts May Haul Passengers

By S. W. HOPKINS
Council No. 48, C&S
New Orleans, La.

Since the whole Army Air Corps moved into the South for maneuvers, the expected traffic congestion resulted in the restriction of all schedules to daylight contact flights.

The boys way down yonder in New Orleans are now using the "Procession of the Equinoxes" to determine when their next trip is due. As this interesting phenomena completes its cycle once each 26,000 years, it forms a convenient interval for determining the pilot schedules.

It is rumored that the post office is now dispatching its really fast mail by dog sled, Water Spaniels being the preferred breed for the swampy Louisiana terrain. Arrangements are now underway to transport passengers and second-class mail by oxcart for the duration.

Offer Short Prayer and Duck

Captain Catlin wore out his slide rule yesterday in an inconclusive effort to determine whether there would be any advantage in attempting to turn when you see a flock of P38's coming over the horizon or whether, because of the time interval, it might be just as well to offer a short prayer and cover one's eyes.

Oh, well, the enforced vacation will give us a chance to figure out the proposed new letdown and holding procedure for the Chicago area, which utilizes four radio ranges with about a dozen assorted intersections and high frequency markers thrown in to add to the general confusion. This new procedure will probably speed up letdowns this winter, but it provides another example of the growing complexity of the airways problem and makes one wonder what the result will be should a military or itinerant pilot, unfamiliar with this local condition, attempt to come into Chicago under instrument flight conditions.

Can Only Learn On An Air Line

What does all this add up to? Just this: the profession of piloting is becoming more specialized and complex as time goes on, and ability in one field does not necessarily qualify a pilot in all phases of the profession. In the case of air line flying the only place to learn it is on an air line in the capacity of copilot.

This brings up the matter of the latest proposed revision to CAR 21 "Air Line Transport Pilot Rating" which makes no provision requiring any apprenticeship on an air line prior to issuance of a Senior Air Line Transport Pilot Rating. An earlier proposed change in Part 21 did make such provision, but it appears to have been

(Continued on Page 4, Col. 4)

—Press Association, Inc., Photo

"BEAUFIGHTER" The newest concoction of the RAF is the potent mixture dubbed the "B & B Cocktail." It is a combination of the American-built Boeing "Flying Fortress" with the British-built "Beaufighter." The "Beau" is believed to be the world's most powerful fighting airplane, and has a wing span of 58 feet. The "Fortress" is probably capable of a higher ceiling with a greater load than any other bomber, and has a wing span of 105 feet. The twin-engined Bristol "Beaufighter" shown here is essentially a high-speed heavily armed fighting monoplane suitable for use as a day or night interceptor.

Expert's Letter on Hazards of Cumulo-Nimbus Reprinted

(Continued from Page 1)

was secured for printing the letter in the Civil Aeronautics Journal. This further reprinting is occasioned by the possibility that while all air line pilots are interested in experiences such as Mr. Stanley's, some may not have had opportunity to read the Civil Aeronautics Journal in which this letter appeared.

Mr. Stanley's Letter:

"In response to your letter of October 8, I shall be glad to furnish the data which I have obtained concerning the strength and distribution of gusts to be found in cumulo-nimbus clouds. I have made a number of flights with a soaring plane into the interior of thunderstorms and, on one occasion, carried with me not only a barograph but also an accelerograph, synchronized in such a manner that I could co-ordinate the gusts with the rate of climb which they produced. I have likewise made several flights in the interior of thunderstorms, using powered airplanes, and I am fairly familiar with the internal structure of this type of cloud.

"The rate of climb which is obtainable in even a mild cumulo-nimbus cloud is in excess of 3,000 feet a minute, and there are flights on record in which pilots of soaring planes gained 20,000 feet in less than 5 minutes, showing that the vigorous convection to be found within these clouds is not only high but sustained. The sharp-edged gust of 30 feet per second, which is used as the criterion of structural design, can easily be met and exceeded when flying under these extreme turbulent conditions.

Rapid Fluctuation Causes Severe Condition

"Soaring within thunderstorms, I have recorded accelerations of nearly 10g, only a small portion of which I attribute to pilot technique. Horizontal gusts sufficient to cause the air-speed meter to jump instantaneously 50 miles per hour in either direction have been encountered. This in itself represents a very severe condition, but an even worse condition exists due to the rapid fluctuations of these gusts. It is quite possible to have 4 or 5 oscillations of this amplitude occur in a period of less than 10 seconds. Striking head-on, the gust exerts a very powerful lifting action associated with the increase in indicated air speed. However, if the gust strikes from the side, it gives a very severe shear-type reaction, during which one can feel the vertical surfaces momentarily stall, due to the high instantaneous sideslips. The gust in the vertical plane will, of course, result in a severe load factor to the airplane, and there is no reason to believe that gusts in the vertical plane are not equal to those actually measured in the horizontal plane mentioned.

"The disposition of gusts within a matured or nascent cumulo-nimbus cloud seems to bear a very definite pattern, in that the central core of the cloud is rising quite smoothly but at a very high rate. If the cloud's vertical velocity is sufficient, naturally hail will be found, the size depending upon the vigor of the cloud. Surrounding this vertically moving air is a zone of extreme turbulence, resulting from the shearing action of the upward moving air reacting against the outer envelope of the cloud, which in all cases is moving downward at a rate approximately one half the rate of the rise of the cloud's core. It is in this region that the maximum turbulence exists.

Turbulence Increases in Boundary Layer

"The vertical distribution within the cloud is approximately as follows: near the base of the cloud, the lift is mild and spread over a rather wide area. Ascend-

(Continued on Page 6, Col. 2)

Winged Couriers of Good Will

By JAMES EVAN FARRIS
Council No. 18, EAL
Miami, Fla.

***FOREWORD:** James E. Farris gives his readers a front seat account of the highly publicized Inter-American Escadrille flight throughout Latin America. As the pilot of Lawrence Rockefeller's twin-engine Grumman Amphibian, G-21A, which carried the party of dignitaries over trackless jungles and to every capital in Latin America, Farris presents a graphic picture of the successful mission to organize a "Wing" in each country. The article will appear in installments in the AIR LINE PILOT.*

Inter-American Escadrille, An Organization for Pilots

The Inter-American Escadrille is an organization in existence some eight years which was founded by Alfredo De Los Rios, a Chilean pilot and ex-Chilean army officer, and now an American citizen. A glance at the masthead of the Escadrille stationery reveals several dignitaries as directors, among them being Harold R. Harris, Vice-President of Panagra; Lawrence Rockefeller, Director of Eastern Air Lines; Franklin Field, Broadway broker and President of the Piper Cub Corp., who also ably pilots the Inter-American Escadrille as President; and others.

Nestled in a setting of towering snow-capped peaks is La Paz, Bolivia, 13,403 feet above sea level. If the exponents of oxygen supplying equipment are to be taken seriously, La Paz should prove an excellent outlet for their apparatus, and their customers would be the populace of the entire city.

Purpose of the Inter-American Escadrille

The Inter-American Escadrille is a practical venture toward unifying all the Americas — North, Central, and South America and including the West Indies. It seeks to build up a Pan American Skyway similar in purpose to the Pan American Highway, one of their efforts being toward the simplification and uniformity of entrance and clearance papers from each American republic to another. For instance, an itinerant pilot leaving the small country of El Salvador to enter the country of Nicaragua would secure the same legal papers and pay similar fees as would a brother itinerant pilot in taking his plane from Paraguay to Argentina. This is but one of the many aims of the Escadrille. At present it is a fact that it costs more for the itinerant pilot in flying his ship from the Panama Canal to Rio de Janeiro for the various clearance and entrance fees than it does to buy gasoline for the flight. Nearly every country has different ideas on the procedure for entering and clearing an aircraft, and there appears to be no co-operative uniformity.

The Inter-American Escadrille also has a long range airport program for small planes in that they are seeking to have built many emergency fields along the Pan American Highway and along present commercial air lanes, and in this they have the backing of most of the governments of Latin America. Speaking of the Pan American Highway, there are paved stretches for hundreds of miles in some of the countries now with so little traffic that it more or less constitutes just one long runway suitable for emergency landings. While a highway is not an ideal landing field, after flying in and out of some of the present South American fields a paved highway gets to look very inviting.

Inter-American Escadrille Flight

Last February a flight was organized to visit the capitals of every country in the Western Hemisphere (Canada was omitted because of the war), the purpose of which was to organize a "Wing" of the Inter-American Escadrille in each country, and at this date this has been successfully completed. The U. S. Government saw the possibilities of this movement, and it was financed by the U. S. Government out of the Co-ordinator's office (Co-ordinator for the Cultural and Commercial Relations Between the American Republics, of which Nelson Rockefeller is the head). The flight then became a U. S. Government mission known as the Inter-American Escadrille "Civil Air Mission to Latin America."

The plane chosen for this flight was Lawrence Rockefeller's twin-engine Grumman Amphibian, G-21A, powered with 450-H. P. Wasp Juniors, which formerly belonged to Lord Beaverbrook. It was practically a brand new airplane and had a total of only 48 hours on it when I picked it up at Roosevelt Field, Long Island and brought it to LaGuardia Field, where it was rigged out for the proposed flight.

The flight members consisted of U. S. General Frank Ross McCoy, who headed the expedition; his Aide, Walter Bruce Howe of Washington; Alfredo De Los Rios, U. S. Government representative and organizer, since he commands an excellent use of the Spanish language; Luis Medina, a Columbian citizen, as flight mechanic; and myself as pilot of the expedition, with Alfredo De Los Rios as my copilot. All I had to do was fly, operate the wireless set and navigate, and in my spare time enjoy the scenery.

Farris refueling in a lagoon at Antigua Island, British West Indies, which was on the itinerary of the Good-Will Tour. L. to r.: Walter B. Howe, Gen. Frank R. McCoy, Mr. Henzel, ex-RAF, Alfredo De Los Rios.

The Itinerary

Officially leaving Washington, the flight proceeded through Miami, Havana, eastward and southward through the West Indies to Trinidad, down the east coast of South America to Buenos Aires, then across the southern part of South America to Santiago, Chile, and up the west coast to Panama, continuing up through Central America and back to Washington, D. C., the flight officially ending there — all of which took a total time of four and one-half months.

NEW BOOKS

The Aircraft Year Book for 1941, representing the twenty-third edition of this official record and reference work on American Aviation, is off the press.

Its contents are from official sources, including the Government departments, the manufacturers of aircraft equipment, and other aeronautical agencies. Technically accurate, it is the official reference work in the Army and Navy air forces; and is a recognized standard authority in the Congress of the United States.

The Aircraft Year Book is published by the Aeronautical Chamber of Commerce of America, Inc., 30 Rockefeller Plaza, New York City.

Cut In Half

(Continued from Page 3)

reduced to $50,000,000 on the floor by the adoption of the Vandenberg amendment.

Substitutes New Amendment

Senator Vandenberg first introduced an amendment to delete entirely the $100,000,000 sum which was defeated the first time by a roll call vote of 36 to 10. This vote was ruled out for the reason that 46 senators constituted less than a quorum, at which time 49 senators answered present, making a quorum. The amendment was again voted upon, and this time only 47 senators voted, being still less than a quorum. Senator Vandenberg then arose and withdrew his amendment, following which he substituted a new amendment proposing to reduce the $100,000,000 to $50,000,000. This amendment was agreed to by a voice vote.

The supporters of the $100,000,000 appropriation contended that the defense need, according to a survey of experts of the Public Roads Administration and the War Department, would require a total of $458,000,000. The President reduced it to $25,000,000. The Senate Post Office Committee, disregarding the President and the Director of the Budget, raised this originally to $125,000,000.

Specializing—

(Continued from Page 3)

shelved for some reason. Those familiar with the problem feel that it would be a great mistake to rewrite CAR 21 without making some provision requiring a certain amount of time as a Junior Air Line Transport Pilot prior to issuance of a Senior or Master's Air Line Transport rating. There may be some variance in opinion as to the amount of time required, but that there should be some such period goes without saying.

Break Down and Be Valueless

It may be argued that no air line would employ a pilot as captain who merely meets the minimum standards as set forth in the proposed amendments to CAR 21, or it may be argued that the seniority sections of the pilots' employment contracts would automatically require a certain amount of copilot time prior to promotion. However, if this line of reasoning is followed, the whole purpose and function of the Civil Air Regulations would break down and become of no value.

There is plenty of precedent for a system requiring a certain period of experience as a junior officer prior to promotion. The merchant marine is an example in which a man must spend a number of years as mate before qualifying for his master's papers.

It is in the interest of air line safety that the pilots have long favored the adoption of the highest and most rigid standards for qualification as an air line transport pilot.

New Service Is Organized to Ferry Bombers

Constituting the next step in the Government's determined efforts to get planes across the Atlantic is the establishment of a ferry service to be operated by Pan American Airways between the Western Hemisphere and West Africa, and then on to the Middle Eastern front. To maintain this faster aerial aid, recently announced by President Roosevelt, additional pilots are being engaged on a "volunteer" basis to ferry bombers to Britain. Plans for this new service are rapidly nearing completion. The official name of this new operation is Pan American Air Ferries, Inc., with offices in New York and Miami.

Exact routes have not been specified. While the first guess is that these reinforcements might be employed principally in the Mediterranean area, it would be feasible to fly the new fighters onward to battle fronts in the Caucausus, Iran, or even into the Far East.

Speedy Delivery Is Important

In its announcement of the ferry program, the White House concluded pointedly:

"The ferry system and the transport services provide direct and speedy delivery of aircraft from the 'arsenal of democracy' to a critical point in the front against aggression. The importance of this direct line of communication betwen our country and strategic outposts in Africa cannot be overestimated."

Pan American is also establishing a transport service covering the same routes to supplement the ferry service. The service will carry spare aircraft parts or other essential items and also will be used for returning ferry personnel. It also will be available for general commercial use between the United States and Africa. The routes are being arranged so they will not pass through any zone of actual warfare.

Possible Route

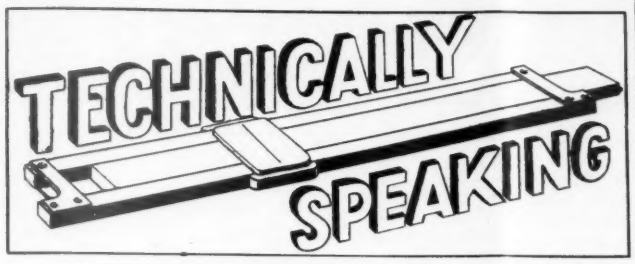
While the White House announcement was vague as to details, it has been suggested that the route might be something like this:

From New York or Baltimore to Bermuda, thence south to Natal, Brazil, where Pan American is developing air bases with appropriations made by the United States and through an agreement with Brazil, and across the Atlantic 1,800 miles to West Africa. The West African bases most likely to be selected probably would be Bathurst, in British Gambia, which is only about 100 miles or so south of Dakar, in French West Africa, or Monrovia, in neutral Liberia. The next jump eastward probably would be to Takoradi in the Gold Coast. Thence the planes might go eastward across Nigeria and French West Africa, presumably to Khartum, and then north to Cairo.

The decision to employ the facilities of Pan American marked the first time that any international air line operating under the American flag had been asked to undertake such work.

Air Problems in Alaska Studied

The Civil Aeronautics Board is making a further study of air transportation problems in Alaska before acting upon applications of 38 air line operators. The Board said Alaskan air service was surrounded by circumstances so different from those present in the continental United States that further consideration should be given to problems of general regulatory policy, including possible need for legislation, before passing upon the pending applications.



RADIO AND LIGHTING=SAFE LANDING

(Editor's Note: This comprehensive treatment of the important issue involving the more practical aspects of instrument landing systems authored by David Little of American Airlines will appear in two installments in the AIR LINE PILOT. Mr. Little has long been intimately connected with this development and is considered an outstanding authority on the subject. To be continued in the October issue.)

An authority on instrument pilotage of aircraft, at the time engaged in supervising details of development of an aircraft instrument landing system, once aptly remarked: "It's getting so one can't drop a beer bottle out of a hotel window without its striking a perfect instrument landing system—in the making." Although that remark was made a long time ago, the situation hasn't changed greatly—we do not yet have a national and a fully acceptable system for instrument landing of aircraft. However, definite progress is constantly being made on what has of late become an economic necessity.

The air lines are looking forward to early completion of a number of instrument landing systems being installed at key airports by the Civil Aeronautics Authority. They wish to train all line pilots in the usage of this development, only simulating lower instrument approaches to begin the instruction, then gradually working as experience and confidence is gained into making instrument approaches under the intermediate ceiling condition. Lower and slowly lower they hope to go until eventually landings may be made with confidence of all and complete safety under the full instrument flight condition. That day is unquestionably a considerable time away. As both Civil Aeronautics Authority and air lines are involved with this expected progress, each constantly striving by its own methods for a maximum of safety, the air line aircraft rider need have no fears of becoming any guinea pig for an air line pilot practicing instrument landing.

Seek Apparatus to Land Military Aircraft

To a large extent, separately but with technical co-ordination, our Army and Navy are bending strong efforts toward obtaining in a short time a system of apparatus by which they can land their military aircraft without as high a mortality to both aircraft and personnel as they expect if plunged into war-time conditions in all too often small, unlighted, and unprepared fields where they would operate at night and under conditions of adverse weather.

The instrument landing problems of civilian and military flying are alike in some respects—widely divergent in others. Military aviation requires a system basically mobile and not requiring approach lighting, a system which they can rapidly transport from field to field or landing strip to landing strip. Their initial safety requirements need not be as strict as those of civil aviation. If military aviation can only improve their mortality rate on night and bad weather landings from unimproved fields, any slight improvement will justify considerable experimentation in men, money, or time. Civil aviation must, however, approach its goal with a different view. Accidents must not happen, from the public viewpoint—and dare not happen from the air line viewpoint. Civil progress must be directed very slowly from the present to the future with absolute safety in every new step.

Altitude Controlled by Barometric Altimeter

Research and development on instrument landing dates back to 1928 in the United States. In that year the Bureau of Standards created a system comprising a runway localizer and marker beacons. Attitude was controlled by barometric altimeter. Using this system without the aid of the marker beacons, the then Lieutenant J. H. "Jimmy" Doolittle made the first successful instrument landing on September 24, 1929 at Mitchel Field, L. I. In 1929 Diamond and Dunmore of the Bureau of Standards proposed and devised radio guidance in the vertical plane using a constant-intensity glide path. This along with the runway localizer gave a three-dimensional system. Installations of this three-dimensional system, each consisting of runway localizer, glide path, and markers, were made at College Park, Md., in 1931, at Newark, N. J., in 1933, and Oakland, Calif., in 1934. The Newark and Oakland installations employed two marker beacons, one near the airport boundary, the other some distance away along the localizer-glide path approach.

On March 20, 1933 when weather conditions grounded all other aircraft on the Atlantic seaboard, a completely "blind" or instrument flight was made from College Park to Newark. Later, some 100 instrument landings were successfully demonstrated at Newark. These first attempts taught principles and fundamentals. Technical progress from then on was varied and extensive. In 1936 and 1937 United Air Lines and Bendix co-operatively established several instrument landing systems at key airports on United's airway, and during these two years approximately 3,000 hooded landings were made by United on the Bendix system. Much valuable knowledge came from this work.

From 1928 to 1941 is a long time, especially in aviation's history—and we are still looking forward to better military aircraft operations, greater reliability of air line schedules with less interference from weather. Where is the missing element or incentive?

Radio and Lighting Are Not Abreast

The very rapid progress made in aerodynamics, engines, aircraft instrumentation, and air line service apparently has been too rapid for the complexity of radio and lighting to keep apace. The aircraft of yesterday were made to descend or climb by stick or wheel control of horizontal stabilizers. Today air line aircraft are trimmed for a descent while cruising and descent is controlled at a constant speed and pre-established rate of descent by throttle alone. Yesterday aircraft size and control were such that maneuvers near the ground were not considered too hazardous. Today modern transport aircraft begin their final glide onto a runway from a point one to three miles away from the field and 500 or more feet above ground. What was passable in glide path and localizer characteristics ten years ago is history now. Aviation radio and lighting engineers have made valiant efforts to catch up with the extremely rapid development of air line service over these many years, and it would appear have only recently come within conversational distance.

In 1939 the Civil Aeronautics Authority completed and demonstrated at Indianapolis, Ind., what is now referred to as the CAA Instrument Landing System. The result of notable contributions by many, including the Bureau of Standards, Department of Commerce, CAA, Lorenz of Germany, International Telephone and Telegraph Corp., Washington Institute of Technology, Bendix, United Air Lines, and TWA, Inc., all guided by the CAA, created and fostered Radio Technical Committee for Aeronautics (composed of representatives of air lines, radio, and lighting manufacturers of all interested governmental agencies), this system is now entering the service test stage. It is composed of a runway localizer, glide path, and two markers all operating in the ultra high radio frequencies. As complete technical descriptions of this system have been published heretofore in the pages of Aero Digest and many other publications, no reference will be made here to these details.

Four Units Serving Each Runway

The Indianapolis experimental installation consisted of four complete equipments, one serving each of four runways. Upon satisfactory demonstrations of this installation, CAA procured funds with which to purchase five additional. These five are rapidly nearing completion of manufacture and, with removal of three of the four at Indianapolis, will provide one runway equipment for each of eight additional selected key airports, or a total of nine counting Indianapolis. The air lines are providing themselves with the necessary additional aircraft apparatus to employ this system, and thus shortly will begin service testing of the CAA instrument landing system at nine of the nation's key air terminals. Meanwhile CAA has requested and obtained funds for 11 additional instrument landing equipments so in due time 20 such airports will have this service.

As the CAA system is anything but portable, both Army and Navy, while co-operating technically, are naturally not particularly interested and are taking steps to procure systems more adaptable to their military requirements. In turn, the air lines are watching their procurement development with much interest, and it is not unlikely that as time passes each may use common elements of the other's system. CAA is also separately carrying forward much further looking development which in itself may shortly change CAA's views on materials to be employed.

Rope-Skipping Fish—Tsh, Tsh

(Continued from Page 2)

those yarns about the big ones, Joe Leferink brings in one that takes the cast iron something or other. Joe recently purchased a new outfit of fishing equipment and couldn't wait to try it out. After dashing over to the Platte River near Saratoga, Wyo., (ever hear of it, Harold) it seems that the fish just would not bite. Joe fished and fished, and was just getting ready to give up and go back to a willow and string, when lo and behold, a fish started to play jumping the rope. Joe swears and declares, by all that is righteous, that a fish nearly two feet long would leap over his line every time he made a cast from then on. Some story, and I'd stick with it, JoJo.

Antelope hunting season is now in progress, and we are waiting for word of the expedition being directed by Chuck (what-a-man) Aagard and "One-Shot" Leferink. Details next issue.

It Wasn't the Motor That Was Shaking

Paul Seal and Chuck Criswell were describing a recent motor failure en route and, to quote Seal, "things were vibrating so I couldn't hold the mike still in my left hand to report an emergency, so I switched it to my right, and, gosh, it wasn't the motor shaking at all." Charlie says it was the first time he knew de-icer fluid was such a yaller color.

Embarrassing moments: Practicing single-motor take-offs, and props won't unfeather when desired.

Sight of the month: Gano returning on Flight 3 with a bunch of duck decoys. Ducks taking a man for a ride!

Welcome, and the Best of Success

We now have with us Will W. McConnell, Resident Air Carrier Inspector, who reopened the office September 1. He is all business and a regular fellow, and we look forward to pleasant business relations with the office of Air Carrier Inspector Service. Welcome to a good town, and the best of success, Mac.

Ladeez and what came with you!! Introducin' recent new first officers:

Myrl Brode from Akron, Ohio. Still waters run deep.

W. D. Harmsen from Minneapolis and points east. Always a smile.

Robert Cansdale from Ohio and points west. Small, but mighty.

What a Break for the Girls!

Charles Farmer, rumored from New York and points about the globe. Thinking and serious.

All these boys are single except Harmsen, so what a break for the girls. We welcome all of you to our gang and look forward to having you among us at our meetings.

With the changes and added personnel, the copilot end of our council surely is depleted. With Gano and Wahl (gosh that's me) checked out as reserve captains, we have to wait until another co can get his year finished before we can change copilot representatives.

Murphey and Aagard were the only ones eligible to take over, and now Chuck wants to know who the heck is copilot representative. Looks like you're it, pal.

Civil Air Regulations — Legislation
Additions - Changes - Amendments

REGULATION No. 177: SPECIAL REGULATION—
ADOPTED AUGUST 5, 1941,
EFFECTIVE AUGUST 5, 1941.

Air Traffic Control in Washington National Airport Control Zone

"Aircraft taking off from any landing area in the Washington National Airport control zone, other than Bolling Field or the Naval Air Station, shall obtain authorization from the air-traffic control-tower operator on duty in the airport control tower at the Washington National Airport prior to such take-off."

REGULATION No. 180: AMENDMENT No. 127 TO CAR:
ADOPTED AUGUST 15, 1941,
EFFECTIVE SEPTEMBER 15, 1941.

Lighter-than-Air Pilot Certificates

This amendment to the Civil Air Regulations adds a new Part 22 creating a new certificate for lighter-than-air pilots.

REGULATION No. 181: AMENDMENT No. 128 TO CAR:
ADOPTED AUGUST 19, 1941,
EFFECTIVE AUGUST 19, 1941.

Ground Instructor Rating Examination

Section 51.27 is amended to read as follows:

"51.27—Re-examination. An applicant for a ground instructor rating who has failed to pass any prescribed examination or test therefor shall not apply for re-examination for the same rating until the expiration of 30 days from the date of such failure."

REGULATION No. 182: SPECIAL REGULATION—
ADOPTED AUGUST 21, 1941,
EFFECTIVE AUGUST 21, 1941.

Operation by Air Carriers of Multiengine Land Aircraft Over Lower Bay of New York Harbor

"Notwithstanding the provisions of Sections 61.3220 and 61.3230, scheduled air carriers in air transportation may operate multiengine land aircraft on a direct route between Keyport, New Jersey, and New York Municipal Airport, La Guardia Field, New York over the Lower Bay of New York Harbor at a distance beyond gliding distance from shore without the aid of power when such operation is authorized by the Administrator in the interest of safety."

REGULATION No. 184: AMENDMENT No. 129 TO CAR:
ADOPTED SEPTEMBER 5, 1941,
EFFECTIVE OCTOBER 1, 1941.

Revising the Qualifications for, and the Rules Governing the Operation of, Air Carriers

(Full text of amendment attached hereto—please copy)

REGULATION No. 185: AMENDMENT No. 130 TO CAR:
ADOPTED SEPTEMBER 12, 1941,
EFFECTIVE SEPTEMBER 12, 1941.

Revising the Qualifications for, and the Rules Governing the Operation of, Air Carriers

(Full text of amendment attached hereto—please copy)

Effective October 1, 1941, Parts 04, 40 and 61 of the Civil Air Regulations are amended as follows:

1. By amending Sections 04.530 to read as follows:

"04.530—ACP Landplanes—Visual-contact day flying. The same as specified in Section 04.511 and, in addition, the following:

(a) An electrically heated pitot tube, or equivalent, for the air speed indicator.

(b) One additional portable fire extinguisher of the type specified in Section 04.510(j). (See Section 04.5811 for installation requirements.)

(c) Fixed fire extinguishing apparatus of an approved type for each engine compartment.

(d) Type certificated radio equipment as specified in Part 40.

(e) A set of spare fuses. (See Section 04.5822 for installation requirements.)

(f) A rate-of-climb indicator.

(g) A storage battery—Same as Section 04.513(f)."

2. By amending Section 04.5812 to read as follows:

"04.5812—Safety belt signal. When a signal or sign is used to indicate to passengers the times that seat belts should be fastened, such signal or sign shall be located in a conspicuous place and so arranged that it can be operated from the seat of either pilot."

3. Parts 40 and 61 are amended by striking the phrase "air carrier dispatcher" or "air line dispatcher" whenever it apears and inserting in lieu thereof the phrase "aircraft dispatcher."

4. By amending Section 40.203 to read as follows:

"40.203—Intermediate fields. Applicant shall show intermediate fields or airports available for safe landings with the load authorized for the route, or part thereof, and located so that the aircraft, when flying along the proposed route, shall at no time be at a distance greater than 50 miles from an intermediate field or airport: Provided, That the Administrator may permit or require intermediate fields at greater or less distance if suitable or necessary to provide adequate safety along the proposed route."

5. By amending Section 61.322, but not including any Subsection thereof, to read as follows:

"61.322—Day and night operation over water. The following rules will govern the operation of multiengine aircraft in day or night operation over water."

6. By striking Section 61.323.

7. By the addition of a new section, Section 61.340, reading as follows:

"61.340—Seat belt sign. An aircraft shall not be operated in scheduled air transportation unless a suitable means for warning passengers to fasten seat belts is provided."

8. By amending Sections 61.531 and 61.532 to read as follows:

"61.531—Continuance of pilot competency. If, within any 90-day period, a first or second pilot has not made at least two take-offs and landings in scheduled air transportation in aircraft of a particular make and model, such person shall not thereafter serve or be employed to serve as a first or second pilot in aircraft of that make and model in such transportation without having made at least three take-offs and landings in such aircraft with one-half to three-fourths useful load, and, if he is to serve in such transportation at night, without having made at least one of the three take-offs and landings at night. No per-

(Continued on Page 7, Column 1)

New Air Line in S.A. Displaces Axis Route

The Pan American Airways System has announced the opening of a new United States sponsored air service in South America as another step to oust Axis-controlled air lines from dominant positions in the southern continent.

The new service is routed between Lima, Peru, and Rio de Janeiro. The strategic 2,600-mile route formerly was operated by the German air line, Deutsche Lufthansa.

EYES FRONT **In the interest of national defense, Major Lloyd B. Jones, air officer for the Ninth Corps Area of the U. S. Army, gives his approval to the students in the graduating class of the United Air Lines-Boeing School of Aeronautics pilot training school at Tracy, Calif. We venture that most any grizzly old top kick would observe "It's a fine body of men."**

LATE NEWS

(Continued from Page 1)

Peak

United States aircraft industry weekly pay rolls totalled more than $3,000,000 during the first six weeks of the year, reaching a record peak of $10,603,321, reports the Aeronautical Chamber of Commerce. During the same period 87,413 new jobs were provided, and 7,243 warplanes were turned out for this country and its allies.

Trebled

The supply of fabricated alloy steel for aircraft manufacture will be trebled by the end of 1942 under the new Office of Production Management program, it was announced recently. No details of the expansion program have been worked out, but it was presumed that if necessary the Government would underwrite the cost of additional furnaces and other equipment, retaining title to such new or expanded facilities.

Dispute

Senator McCarran of Nevada has announced he intends to introduce legislation which would return to the District of Columbia the original ten-mile square that Virginia contributed to the Nation's Capital in 1789. This came about as the result of the dispute of placing a thirty-five million dollar War Department building in Arlington County. To bolster his contention, McCarran cited the current dispute concerning divided jurisdiction over the new Washington National Airport. In order to regain the land in Virginia receded to that State in 1846, legislation is necessary to make null and void the Act of Recession of 1846.

Suspended

The Civil Aeronautics Administration suspended the commercial pilots' certificate of Hugh C. Robbins for 60 days, beginning on September 24. Robbins was charged with low flying and approaching closer than 500 feet to another aircraft. The violation was reported to have occurred on April 6 when Robbins flew a New York Daily News photographer over the British battleship "Malaya" at New York. Secretary Knox filed the complaint with the CAA.

Distribution of Cumulo-Nimbus

(Continued from Page 4)

ing upward through the center, the rate of climb increases and the degree of turbulence in the boundary layer becomes more severe. At the level at which icing begins to appear and the rain turns to sleet, turbulence may be found even in the center core and will be most severe in the boundary zone. What exists above this icing level I do not know firsthand, because of the fact that my soaring plane has always been equipped with a venturi-driven turn indicator, which has always iced up at this point, necessitating my termination of the flight for reasons of safety.

"A well-developed cumulo-nimbus cloud will have a necked-in portion ocurring at the level at which freezing occurs to its moisture content. Above this layer lies the familiar anvil top which is produced by the impact of the upward moving air against the isothermal layer of the stratosphere. However, circling with this neck-in portion, I have invariably noted that hail continued to fall from the anvil above, showing that there is a diffusion of the center core of air and probably a reduction of turbulence can logically be expected. In clouds which have not reached the cumulo-nimbus stage but are undergoing the early formation, turbulence is found to be greatest at the top.

"The intensity of the gusts and their disposition within the clouds seem to follow in general the pattern outlined above. It is possible for the air to be so gusty that an upward gust can be acting on one wing at the same time that a down gust is acting on the opposite, resulting in severe shearing action.

"These data have been given principally as a result of soaring flights using a sailplane with a wing load of 3.1 per square foot and ultimate strength factor of 12, fully equipped with blind flying instruments.

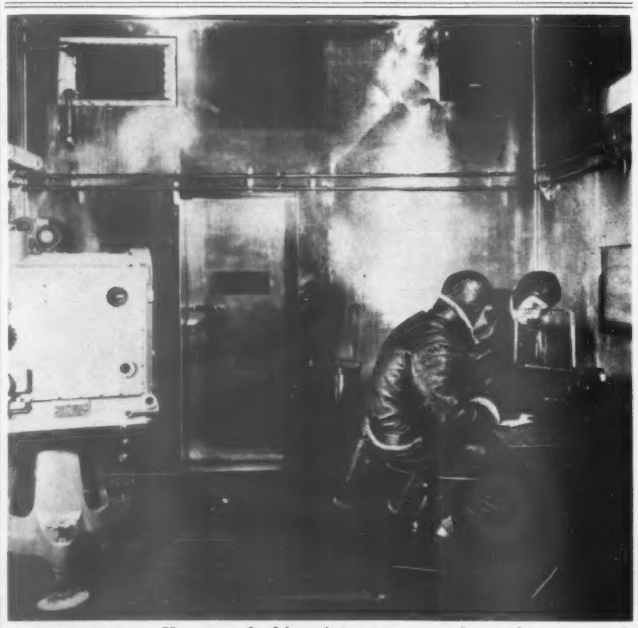
"Following one unusually severe flight inside a thundercloud, the rudder cables which had been prestretched to 60% of design loads and were operating over ball-bearing sheaves had become so badly stretched that it was no longer possible to control the rudder. Other parts of the control system suffered to a lesser degree, the wing attachment fittings, whose yield point is approximately 8g, showed a readily measurable amount of permanent set.

"In closing, I would summarize approximately as follows: the interior of a thunderstorm represents a condition of extreme hazard, which should never be entered by any pilot without paachute and recent experience in blind acrobatic flight, and should never be done in an airplane other than a plane of special design, incorporating high factors of safety. In fact it would be on the side of caution to avoid flying below or in the immediate vicinity of clouds of this description, due to the extremely high rate of climb existing beneath such formations and the consequent danger of being sucked up inside the cloud before the plane's air speed can have carried it away from the vicinity."

Air Lines Report Traffic Records

Another all-time traffic record was established by United Air Lines in August, when, with national defense passengers and cargo business furnishing its impetus, the Company flew approximately 33,240,300 revenue passenger miles. The month of August showed a 9% increase over the record-breaking month of July, 1941, and a 22% increase over the month of August, 1940, which was the best month of last year.

American Airlines traffic in and out of Washington was up 87% over August of last year.



ARCTIC *You are looking into a room where the man-made temperature is down to 35 degrees below zero . . . the "all weather" laboratory of the Sperry Gyroscope Company in which Arctic cold, tropic heat, rain, or fog are created artificially. Two engineers in fur-lined flying suits are making a special test of aviation equipment. At the left is an antiaircraft detector, which automatically trains a gun on an approaching airplane. Existence of such a laboratory illustrates, according to the Aviation News Committee of the Aeronautical Chamber of Commerce, the brilliant research being carried on by the American aviation industry of national defense.*

ALTITUDE AND THE AIRMAN

Seventeenth installment of the article, "Altitude and the Airman," written by Dr. Ross A. McFarland, and abstracted by the late Dr. Ralph Greene. Succeeding installments will appear in following issues.

XV. CONCLUSIONS.

The following conclusions may be tentatively drawn from the experimental evidence concerning the effects of reduced oxygen pressure. The findings will be discussed, with special concern for (a) safety of operations, (b) the comfort of passengers, and (c) the maintenance of mental and physical fitness in the flight personnel, under the following general headings:

1. The important physical variables at high altitude which affect the human body adversely, i. e., the lack of oxygen and the effects of sudden variations in barometric pressure on the ears and sinuses.
2. The basic cause of the ill effects of high altitude and the way in which the inhalation of oxygen wil maintain normal responses.
3. The altitudes where the organism is first affected and where the deterioration is marked, i. e., the specific altitudes where the inhalation of oxygen is indicated.
4. The effects of altitude in relation to rate of ascent, i. e., ways in which the airman can operate an airplane advantageously for the comfort of the passengers.
5. The cumulative effects of high altitude, i. e., at what altitudes and during what lengths of exposure does deterioration set in, or, on the other hand, acclimatization become apparent?
6. The ways in which the physical characteristics of the individual may influence one's adjustment to high altitude in aviation, especially age, physical fitness, emotional stress, and alcohol.
7. The role of carbon dioxide in facilitating acclimatization.
8. The values to be derived from inhaling oxygen in avoiding the ill effects of the reduced oxygen pressure at high altitude.

Inhaling Oxygen Is Solution

1. It is now clearly established that the two most important *variables* which affect the human organism adversely in commercial aviation result from the lack of oxygen available for the organism at high altitude and the action of sudden changes in barometric pressure on the eardrum of the middle ear. The solution of the former problem, prior to the advent of supercharged cabins, can be solved in substratosphere operations by inhaling oxygen, thereby increasing the partial pressure of oxygen in the lungs and blood stream. The only complete solution of the latter problem is the supercharged cabin and the control of the total pressure. However, the effects on the ears can be greatly diminished by slower ascents and descents, as well as by learning how to clear the Eustachian tubes and equalize the pressure on each side of the eardrum.

2. The *basic cause* of the abnormal symptoms at high altitude is the diminution, not in the *total* pressure, but in the diminished *partial* pressure of the atmospheric oxygen. Although the composition of the air at high altitude does not change appreciably, the fall in barometric pressure causes a drop in the pressure head of the gases in the lungs, forcing oxygen into the blood. This means, for example, that at 18,000 feet a given breath of air will supply only half as much oxygen as at sea level. The decrease in partial pressure of oxygen, consequent on ascent, immediately produces a lowering in the saturation of the blood with oxygen. The tissues, especially the nervous tissues, suffer from oxygen starvation, giving rise to alterations in function. The obvious way out of the difficulty is to increase the percentage of oxygen in the inspired air by allowing a regulated stream of pure oxygen, whose rate of flow is calculated according to height, to mix with the incoming air in a suitable breathing device.

Panagra—

(Continued from Page 1)

pany extends over more than 8,000 miles, mostly up and down the West Coast of South America. It is interesting to note that 3,600 miles separate the principal executive offices of the Company located on the 59th floor of the Chrysler Building in New York from the operating offices in Lima, Peru.

The purging of the Axis-controlled air lines from South American countries has greatly increased the demands of Panagra for expansion and also frequency of schedules. The number of pilots and copilots employed is approximately 50.

The Company is headed by President Harold J. Roig, an exceptionally capable executive. He is ably assisted by Vice-Presidents Harold R. Harris and Douglas Campbell, both World War fliers, the latter being an ace who saw service with Rickenbacker's famous "Hat in the Ring Squadron." In the field at Lima, Peru, the operations are managed principally by Vice-President T. J. Kirkland.

National Airlines Agreement in Mediation

The National Airlines' agreement—sixteenth and last of the domestic contracts to be negotiated—is in mediation. The last conferences were held in Jacksonville, Fla., on September 22, 23. Others are expected to follow shortly.

In addition to contract activities, the Association's "musts" project calendar has not become less crowded. The current fast tempo of the air line transport industry is reflected in all of its branches, and the pilots' organization is no exception.

Civil Air Regulations — Legislation
Additions - Changes - Amendments

(Continued from Page 5)

sons shall be carried during such three take-offs and landings other than personnel of the air carriers or other air carriers and inspectors of the Administrator."

"61.532—(Unassigned)."

9. By amending Section 61.7020(a) to read as follows:

"61.7020(a)—Visual-contact operation (day or night). No air carrier aircraft shall be dispatched or shall take off without fuel and oil sufficient, considering the wind and other weather conditions to be encountered during the course of the flight, to complete flight to the first point of landing specified in the clearance, and thereafter to fly for a period of at least 45 minutes at normal cruising consumption for the flight."

10. By amending Section 61.7021(b) to read as follows:

"61.7021(b) — Instrument or over-the-top operation (day or night). No air carrier aircraft shall be dispatched or shall take off without fuel and oil sufficient, considering the wind and other weather conditions to be encountered during the course of the flight, to complete such flight to the next point of landing specified in the clearance; and thereafter

(a) To fly to and land at the alternate airport for such point designated in the clearance which is most distant from such point, and thereafter

(b) To fly for a period of at least 45 minutes at normal cruising consumption for the flight."

11. By striking Sections 61.7109, 61.71090(a), 61.71091(b), 61.71092(c), 61.71093(d), 61.71094(e), 61.71095(f), and 61.71096(g), and inserting in lieu thereof the following new sections:

"61.7109—Instrument or over-the-top clearance. The following rules with respect to weather conditions shall govern the dispatch of air carrier aircraft in air transportation for instrument or over-the-top flight:

"61.71090—Weather conditions at terminal or intermediate airports. Air carrier aircraft shall not be dispatched in air transportation unless:

(1) The observed weather information and current weather forecasts, pertaining to all landing points specified in the clearance, give sufficient indication at the time of clearance that the ceilings and visibilities are, or will be, when the flight would arrive at such point or points, at or above the minimum specified in the weather competency letter for letting-down-through; and

(2) The alternate airports required by Section 61.71091 are specified.

"61.71091—Alternate airport requirement.

(a) When the observed weather information and current weather forecasts pertaining to a landing point specified in the clearance indicate, at the time of clearance, that the ceiling and visibility are, and will remain until the flight would arrive at such point, at or above the minimums specified in the weather competency letter for letting-down-through, there shall be at least one alternate airport specified on the appropriate flight clearance for such point.

(b) When, at the time of clearance, the ceiling or visibility at a landing point specified in the clearance is below the minimums specified in the weather competency letter for letting-down-through, but the weather reports pertaining to such point at the time of clearance show a trend, by the hourly sequence and current forecasts, that indicates that the weather conditions will improve to or above such minimums upon arrival of the flight at such point, two alternate airports shall be specified in the appropriate flight clearance for such point.

"61.71092—Types of alternate airports.

(a) If an alternate referred to in Section 61.71091 is equipped with a radio range, the weather conditions existing thereat at the time of clearance must be equal to, or above, the ceilings and visibilities specified in the weather competency letter for letting-down-through at such airport when using it as an alternate airport and the hourly weather report sequence and current forecasts shall show a trend that indicates that such weather conditions will continue or improve at such alternate airport until the flight shall arrive thereat. The weather minimums at such alternate airport shall in no case be less than one of the following:

(1) A ceiling of 1,000 feet and visibility of 1 mile;
(2) A ceiling of 900 feet with a visibility of 1½ miles; or
(3) A ceiling of 800 feet with a visibility of 2 miles.

(b) If an alternate referred to in Section 61.71091 is not equipped with a radio range, the weather conditions existing thereat, at the time of clearance, must be equal to, or better than, broken clouds and a ceiling of 1,000 feet and a visibility of 2 miles, and the hourly weather report sequence and forecasts shall show a trend that gives sufficient indication of weather conditions continuing or improving until the flight shall arrive thereat: Provided, That the Administrator may, in the interest of safety, prescribe higher minimums at individual airports."

12. By amending Section 61.7100 to read as follows:

"61.7100—Necessity for dispatching authorization. No scheduled air carrier flight shall be started except on the authority of an aircraft dispatcher whose name appears in the airman competency letter as qualified for the route, or part thereof, on which the flight takes off. No such authority is required for take-offs from an intermediate stop between points specified in the original clearance unless the flight has been delayed for any reason more than 30 minutes. (See Section 61.7103 for new flight clearance)."

Effective immediately, amendment No. 129 of the Civil Air Regulations adopted September 5, 1941, is hereby amended as follows:

Item 7 of Amendment No. 129 is hereby amended to read as follows:

"7. By the addition of a new section, Section 61.342, reading as follows:

'61.342—Seat belt sign. An aircraft shall not be operated in scheduled air transportation unless a suitable means for warning passengers to fasten seat belts is provided.' "

* * *

RECENT BILLS

H. R. 5476—Introduced by Mr. Randolph of West Virginia—Democrat
Date—August 1, 1941.
To provide aviation education in the senior high schools of the District of Columbia, and for other purposes.

H. R. 5695—Introduced by Mr. Randolph of West Virginia—Democrat
Date—September 19, 1941.
A bill to amend the Civilian Pilot Training Act of 1939 so as to provide for the training of civilian aviation mechanics.

S. 1822—Introduced by Mr. Hill of Alabama Democrat
Date—August 7, 1941.
To amend the Act of February 14, 1931, as amended, so as to permit the compensation on a mileage basis, of civilian officers or employees for the use of privately owned airplanes while traveling on official business.

S. 1830—Introduced by Mr. McKellar of Tennessee—Democrat
Date—August 7, 1941.
This Act may be cited as the "Defense Highway Act of 1941."
(This bill was superseded by S-1840 which was approved by the Senate August 15. Section 4 of S-1840 provided for the construction of landing strips adjacent to the Federal Highways.)

Just One Big Happy Family

By C. M. HEFNER
Council No. 19, AA
Ft. Worth, Tex.

Just when we thought we had the proposed midway airport between Dallas and Ft. Worth salted away for keeps, somebody kicked it in the shins, and it's back with us again howling worse than ever.

The idea had died some time ago when both cities reached a deadlock, agreeing on one point only: that each city was trying to outmaneuver the other. Coming to no understanding, the issue became dormant as both cities were snowed under with defense work.

Found Arlington a Willing Wedge

The air lines, however, liked the midway airport idea and found the town of Arlington a willing wedge to pry the idea open again. Located just halfway between Ft. Worth and Dallas, it could make a logical plea for the federal grant.

Just as soon as Dallas and Ft. Worth heard this they came rushing back into the picture. They had been fooling all along, as they really wanted to get along with each other on the airport deal, but had been too busy. Both cities thought Arlington was a fine little town—and didn't Arlington think it would be a good idea if all three towns got together and sponsored the airport? Yes, just one big happy family.

First to Land on Proposed Site

So that's the way it stands. We're to have a midway airport after all. Curiously enough, the proposed site is the exact spot where Bill Hooton had his forced landing. He can always say he was first to land there. That's foresightedness for you.

All employees, particularly the ground employees, are watching the proceedings with a dubious eye. The consolidation will make money for the air lines and less jobs for the workers. And to all it will mean a 15 to 25-mile drive to the field, depending on what part of town you live in.

T. J. Haire is now abed. Hospitalized for an ailing back, he was later moved to surgery for reconditioning of certain vertebrae. Subsequent growth should now be up instead of out. George McCabe is watching with interest.

"Let's Fly" Instead of "Let's Cancel"

Rose and Hutchinson have been checked out. You know, the period in life when a man changes his slogan to "Let's fly" instead of "Let's cancel."

Parrish and Kraemer are back in Ft. Worth, after a brief captain's tour in New York. The loss of ships to the Army tore down their bridge to the left seat. Come new ships, and you will see smiles back on their faces.

Sheldon Shoff has just reported from New York to be the No. 1 reserve in Ft. Worth. Johnny Davidson is also back. This time as Asst. Chief Pilot to Paul Vance.

The smell of the stockyards is more insidious than you think. Exposed to it only 11 months, Josh Hudson is looking for a farm where the smell can be ever-present. The idea is catching. Bob Rentz is a-sniffing too.

Air Lines Offer Loan to Chicago

An offer of $1,200,000, interest free, to build a new airport terminal building in Chicago has been made by the major air lines.

The offer, made informally, has been revealed to the city council. A formal offer of the loan is expected to be made shortly.

Under the proposed plan, the city would repay the loan within 12 years and would maintain and operate the terminal. The lines would lease space in the building for approximately $50,000 a year.

SEEING IS BELIEVING

We have been hearing much about the gas shortage along the Eastern Seaboard, and here is some concrete evidence. Doing their bit to cut down consumption, the TWA personnel at La Guardia field produced a bike-for-two to get them back and forth between their homes and the airport.

Here are Hostess Louise McCagno and Pilot Richard H. Beck, now on active duty with the United States Air Corps, taking advantage of this strange contrivance to do a bit of romancing. They plan to be married soon. Congratulations! We hope you both always keep pedaling in the same direction.

* * *

TEN COMMANDMENTS

That renowned, distinguished, and celebrated scribe, Fred Wahl, has just submitted the following ten commandments for unsafe flying, any one of which is a perfect way to learn the secret grip of St. Peter. Apparently Wahl's theory is to handle pilots like women — tell them what they aren't supposed to do and usually they'll do the direct opposite. "Resent-ers," my, my, we never thought that—seriously, now, hold your fire. We'll take it all back.

1. Never warm up the engine—who does in their car, just wastes time and gas, besides the wear.
2. Never look around for incoming planes before taking off — let them take care of themselves, hard on the neck.
3. Always take off down wind—you can run farther and faster.
4. Never use all the field, take off as near obstructions as you can—shows up your equipment and ability better.
5. Never wait for a fog to lift before taking off — it usually gets worse.
6. Always chandelle on a take-off—usually shortens the trip.
7. Never pay any attention to an engine miss on take-off, keep right on going — you have plenty of power anyway, usually have to throttle down after getting off anyhow.
8. When the engine quits on take-off, always pull the nose up — gives you more time to pick a field.
9. When the engine quits on take-off, always turn back into the field you have just left — it makes spot landings easy and greatly reduces the roll along the ground.
10. Whenever your instruments show improper reading, pay no attention—they are only for ornamentation and to confuse the uninitiated.

* * *

AIR MINDED

—*I. N. P.*

Henrietta, year-old giraffe of Ringling Brothers and Barnum and Bailey circus, has a yen for planes. Every time one flies overhead she uses her long-distance neck to get a better look at the craft.

FROM A PLANE'S LOG

Leaky boiler, no water; no water, no steam; no steam, no heat; no heat, no comfort; no comfort, no passengers; no passengers, no money; no money, no work; no work, no pay; no pay, no eat; no eat, get weak; get weak, get sick; get sick, might die; AND WHO THE H—— WANTS TO DIE BECAUSE OF A HOLE IN THE BOILER.

—*Thanks to G. A. McKee*

* * *

THE HEIGHT OF OPTIMISM

Optimistic pilot to his scared passenger: "We shall crash, but don't worry. There's a rubber plantation down below."

* * *

AN EMOTIONAL PARADOX

A Boston copilot inquires: "What is your conception of a national emergency?"

It is a state of excitement in which everybody is expected to remain calm.

* * *

JUMPING TO A CONCLUSION

The aviation instructor, having delivered a lecture on parachute work, concluded: "And if it doesn't open — well, gentlemen, that's what is known as 'jumping to a conclusion.' "

Committee Instructed to Make Full Investigation of Crashes

(Continued from Page 1)

tives Jack Nichols, of Oklahoma, Chairman; Richard M. Kleberg, of Texas; Herron Pearson, of Tennessee; Everett M. Dirksen, of Illinois; and Carl Hinshaw, of California.

Procedure and Scope of Investigation

One of the first things which the committee did was to take an informal course in aeronautics to familiarize itself with air-navigation facilities, meteorological procedure, and other matters in order to comprehend better the field in which it was expected to work. This instruction consisted of lectures and blackboard demonstrations so that the committee would have a definite and accurate idea of the whole porcedure under which civilian planes take off on courses of directed flight, the type of weather information which is supplied during flight, the airway facilities which are made available in the course of flight, the type and sufficiency of the instruments which are at the disposal of the airplane pilots, the sufficiency and adequacy of airport facilities, and the procedure by which civilian planes are brought down to landing areas.

With this background as a supplement to the knowledge which the various committee members had, it then became necessary to determine the procedure to be followed in the conduct of hearings and investigations.

After a long and informal discussion the committee was unanimous in its belief that it could best serve the cause of air safety and elicit the greatest amount of information by conducting closed hearings.

Serves Twofold Purpose

The committee believed that this type of procedure serves a twofold purpose. In the first place witnesses speak more freely when conscious of the fact that their intimate observations will not be made public. The committee realized that it must call many employees of the Government and of the air carriers, and that some disclosures by the witnesses might serve to prejudice their positions if this testimony was made public. Moreover, the committee decided to permit witnesses to testify off the record if they so desired.

Other facts which the committee had in mind were that while air commerce is growing at a phenomenal rate, its continued growth is directly contingent upon the factor of air safety. There was, therefore, involved in this investigation a delicate psychological factor. The committee did not want to be guilty of damaging or impairing public confidence in the safety of air transportation. The committee is convinced that the results which have been obtained and the general confidence which has been manifested and expressed by those with whom it has had contact have borne out the soundness of its procedure.

The committee also determined that it would first investigate the most recent of the air accidents and work back in order to avail itself of all possible testimony while it was still fresh in the minds of witnesses. Having determined on this procedure, the committee thereupon proceeded into the field and held hearings in various cities. Specific reports on these accidents are in preparation.

Growth and Prospects of the Air Industry

The growth of commercial air service during the last decade has been truly phenomenal. In 1930 there were only 417,000 air passengers for the entire United States. By 1935 this number had more than doubled and reached 860,000. By 1940 that number had more than tripled and there were 2,900,000 air passengers. In 1931 air line members of the Air Transport Association of America carried passengers 119,968,577 passenger miles, transported 1,151,348 pounds of express, and 9,643,211 pounds of mail. In 1940 they carried passengers for an estimated 1,455,600,031 passenger miles and transported 14,385,188 pounds of express and 33,566,341 pounds of mail. This shows an increase in passengers and express of better than 1,000 per cent within 9 years.

During these years as new planes were made available, new schedules were approved, more aids of navigation were provided, and airport facilities were expanded. The experiences of the past are prophetic of the future. Air commerce is expected to grow by leaps and bounds. It is anticipated that by 1945 there will be 11,000,000 scheduled air passengers. By 1950 the number is estimated at 22,000,000. It is obvious from its past growth that the aviation industry has assumed such proportions as to merit the attention and thorough sudy of the Congress, the executive agencies, and the country. It is manifest that no stone must be left unturned in the interest of air safety.

Components of Safety

In a general way it may be said that four major factors enter into the safety picture in air commerce. The first is the safety of the plane's structure embracing its airworthiness, safety equipment, and navigation facilities, and its capacity to carry loads of passengers under adverse weather conditions. The second component is the personnel factor. It relates to trained and skilled pilots and copilots, ground personnel engaged in dispatching and supervising flights, and the operation of all forms of ground facilities. The third component is the adequacy of navigation facilities along the Nation's airways, which direct the pilots in flight, keep them in close communication with the ground, and furnish them with the latest weather reports to aid them in successfully terminating their flight. The fourth component of safety is the adequacy of airport facilities. This includes the size and location of airports, the length and width of its runways, the sufficiency of approach and airport lights, the adequacy of the equipment used in airport control towers, and the training and skill of tower operators entrusted with the responsibility of safely directing a plane to the landing strip.

In considering these safety factors, as applied to commercial air lines, there are numerous complications. The commercial air lines are privately owned and operated. They are engaged as common carriers of passengers, mail, and express on air routes established by the Civil Aeronautics Board under rules and regulations made by the Board. These rules and regulations are enforced by the Civil Aeronautics Administrator. Nearly every commercial flight originates and terminates at municipally owned airports. The tower operators at these airports, who control landings and take-offs, are city employees, subject to the vicissitudes of local elections. Thus, we have involved in nearly every flight of a commercial plane the complexities incident to multiple control.

Adequate Zoning Acts Needed

Immediately surrounding nearly all airports is privately owned land upon which buildings, structures, or other improvements may at any time be erected at such heights as to impair or destroy the safety and usefulness of these landing areas. Therefore, unless adequate zoning acts are passed by State legislature authorizing counties, cities, and towns jointly or severally to zone property, frequently situated outside of the corporate limits of any city, there is an ever-present threat to millions of dollars of Federal, State, municipal, and private funds invested in airports throughout the Nation.

Shortage of Adequate Ports

Despite these substantial investments there is an acute shortage of adequate landing areas suited to the needs of commercial air lines and other large and fast planes. To illustrate, within only a few months after its completion, La Guardia Field at New York approached the limit of its traffic load. Frequently, because of congestion, commercial airplanes must fly over this port for long periods of time before being permitted to land.

Further complications involved in the determination of many aeronautical problems are the jealousies existing between cities and States, particularly where the political control vests in different parties. And finally, there is the age-old problem of States' rights which arises to further confuse and delay the sound solution of this problem.

While the committee is primarily concerned with air safety as it pertains to scheduled flights by air carriers and their interrelationship with other aircraft, it is not unmindful of the fact that many other elements enter into the picture.

Far Eastern Theater; Space Machine Patched

The wildest and woolliest commercial air line in the world connects Free China with the outside world, lightheartedly o'erleaping beaconless jungles and merciless Japanese. The Chinese call it the Middle Kingdom Space Machine Family; to foreigners it is known as China National Aviation Corp., operated by far-flung Pan American Airways in partnership with the Chinese Government.

CNAC, a collection of seasoned pilots and even more seasoned planes, takes in its stride adventures which would not be believed if seen in the movies. Last week CNAC told a tale which topped its bravura career.

Six CNAC planes have so far been shot down by the Japanese. To avoid such accidents, CNAC's American pilots and Chinese copilots fly mostly at night (bad weather preferred), blacked out, radios dead, very high, navigating by stars, by instruments, or by Oriental divining. They have carried over 2,000 passengers a year, over 1,000,000 pounds of mail and cargo—ranging from new breechblocks for Chungking's antiaircraft guns to jars of American grape jelly for Madame Chiang Kaishek's table.

Flying a daytime flight from Chungking to Chengtu in a Douglas DC-3, Captain Hugh L. Woods (who had been shot down by the Japanese once before) was attacked by a flight of five Japanese bombers. Woods dived, landed the plane on a tiny field at Suifu, taxied his ship to the edge of some woods, evacuated his passengers. The Japanese planes followed, dropped 200 bombs. One of the bombs splintered the DC-3's right wing like a lightning-struck tree branch (see cut).

Woods wirelessed Hong Kong: "FORCED DOWN SUIFU BY JAPS, STARBOARD WING SMASHED. SEND ANOTHER. MOUNTING RUNWAY."

Hong Kong cabled Woods: "HAVE NO DC-3 WINGS. SENDING DC-2 SPARE. TRY IT."

With the help of some coolies, Woods dragged the hurt plane off the field and three miles down a road to hide it in a clump of bamboo. He feared the Japanese would return. They did. For three days, flights totaling 57 bombers scoured the countryside around Suifu, but the bamboo camouflage fooled them.

On the third day a strange monster flew into the field, rocking and pitching like an aerial rowboat. It was a DC-2, with a DC-2 wing strapped to its belly, stub end first, both ends cambered into an awkward streamline by sheets of plywood.

Feverishly through the night brilliant Chinese mechanics who knew plenty about improvisation, and backward Chinese coolies who did not even know the rudiments of Chinese kite-flying worked at patching plane and field. At the first streak of grey the DC-2½, with one wing five feet longer than the other, roared down the field, took off with a lurch.

A few seconds later Woods cabled Hong Kong: "BOTH PLANES OFF PROCEEDING HONG KONG." Four hours later the hybrid was home.

—Time, Sept. 1, 1941.

A Chinese Middle Kingdom Space Machine is splintered by a Japanese bomb. After some feverish repairing, a new type is born—a DC-2 1/2. At the right it is ready to make its first uncertain take-off.

INVESTIGATION THE HOUSE CONGRESSIONAL AIR SAFETY INVESTIGATING COMMITTEE APPOINTED TO LOOK INTO VARIOUS PHASES OF AIR SAFETY AND OTHER AVIATION ACTIVITIES ARRIVES IN LOS ANGELES FOR AN INSPECTION OF THE NUMEROUS MANUFACTURING PLANTS LOCATED IN THIS AREA. THEY WERE MET BY CLYDE FULLERTON, TWA DISTRICT MANAGER, LEFT, AND ART STEWART, REGIONAL MANAGER, EXTREME RIGHT. L. TO R. FROM FULLERTON ARE REPRESENTATIVES CARL HINSHAW, PASADENA; JACK NICHOLS, CHAIRMAN OF THE COMMITTEE, OKLAHOMA; AND EVERETT DIRKSEN, ILLINOIS. THE COMMITTEE ISSUED ITS FIRST REPORT TO CONGRESS OF ITS ACTIVITIES AND FINDINGS ON JULY 9. (SEE STORY ON FRONT PAGE.)